

WHAT IS CLAIMED IS:

1. A system (10) for generating information about data objects,
a data object representing a component of a technical product or a step in a product formation process,
and the system (10) includes

- a device for generating types (500.1, 500.2, ...) of data objects (300.1, 300.2, ...)
- and a device for generating automatically analyzable specifications, whose analysis determines, generates and/or modifies type-coded data objects (300.1, 300.2, ...) as a function of other type-coded data objects (300.1, 300.2, ...),

wherein the system (10) additionally includes

- a device for generating types (600.1, 600.2, ...) of relations (400.1, 400.2, ...) between data objects (300.1, 300.2, ...),
- a device for assigning data object types (500.1, 500.2, ...) to a relation type (600.1, 600.2, ...),
- and a device for assigning automatically analyzable specifications to relation types (600.1, 600.2, ...).

2. The system as recited in Claim 1,

wherein the system (10) includes

- a device for generating categories of relation types (600.1, 600.2, ...)
- and a device for generating a taxonomy of relation type categories,

and the device for generating relation types is designed so that a relation type (600.1, 600.2, ...) which belongs to a specified category can be generated with it.

3. The system as recited in Claim 2,

wherein the system (10) includes

- a first information memory having a first expandable cross-applications library and has data object types (500.1, 500.2, ...) and relation types (600.1, 600.2, ...),
- a second information memory having a second expandable cross-applications library and has relation type categories,

- and a device for generating a relation type category as a subcategory of a relation type category of the second standard library.

4. The system as recited in Claim 2 or Claim 3,

wherein the system (10) includes

- a first data memory for relation type categories,
- a second data memory for data object types (500.1, 500.2, ...) and relation types (600.1, 600.2, ...)
- and a third data memory for type coded relations (400.1, 400.2, ...).

5. The system as recited in Claim 4,

wherein the system (10) includes a relational database for the three data memories,

and a data record of this database includes

a cell for an unambiguous identifier and at least one cell for information structured in XML data format for a relation type category, a data object type (500.1, 500.2, ...), a relation type (600.1, 600.2, ...) or a relation (400.1, 400.2, ...).

6. The system as recited in one of Claims 1 through 5,

wherein the system (10) includes a device for assigning one relation type (600.1, 600.2, ...) to another relation type (600.1, 600.2, ...).

7. The system as recited in one of Claims 1 through 6,

wherein the system (10) includes a device for generating a relation (600.1, 600.2, ...) which is of a specified relation type (600.1, 600.2, ...).

8. The system (10) for generating information about data objects (300.1, 300.2, ...), a data object (300.1, 300.2, ...) representing a component of a technical product or a step in a product formation process, and the system (10) includes

- a device for generating types (500.1, 500.2, ...) of data objects (300.1, 300.2, ...)

- and a device for generating automatically analyzable specifications, the analysis of which determines, generates and/or changes type-coded data objects (300.1, 300.2, ...) as a function of other type-coded data objects (300.1, 300.2, ...)

wherein the system (10) includes

- a device for assigning a data object type (500.1, 500.2, ...) to at least one of at least two different phases of the formation process,
- and a device for generating a single taxonomy,
- for data object types (500.1, 500.2, ...) which are assigned to a first phase,
- and for data object types (500.1, 500.2, ...) assigned to a second phase.

9. The system as recited in one of Claims 1 through 8,

wherein the device for assigning data object types permits the assignment of at least two of the following object types (500.1, 500.2, ...) to a relation type (600.1, 600.2, ...):

- types of design features,
- types of components,
- types of assemblies,
- types of manufacturing features,
- types of quality features,
- types of measurement features,
- types of test features,
- types of materials,
- types of manufacturing equipment,
- types of production facilities,
- and types of commentaries.

10. The system as recited in one of Claims 1 through 5,

wherein the system (10) includes an information routing interface (250.1, 250.2, ...) to a data processing system for generating and processing a model (150.1, 150.2, ...)

- the product or part of the product,

- a manufacturing process for manufacturing the product or a part of the manufacturing process,
- a work flow or part of a work flow,
- or the cost of manufacturing the product.

11. The system as recited in Claim 10,

wherein the information routing interface (250.1, 250.2, ...) is designed so that the type, an identifier and, if necessary, methods and/or attribute values of a data object (300.1, 300.2, ...) to be generated by the data processing system is transmissible via this interface.

12. The system as recited in Claim 10 or Claim 11,

wherein the system (10) includes a device for generating a user profile of a user, the user profile including at least one of the following definitions:

- read and write authorizations for the user,
- capabilities of the user in generating and processing data objects (300.1, 300.2, ...),
- user preferences in generating and processing data objects (300.1, 300.2, ...),

and the information routing interface (250.1, 250.2, ...) is designed so that definitions of the user profile are transmissible over the interface (250.1, 250.2, ...).

13. An information model for data objects (300.1, 300.2, ...), each of which represents a component of a technical product or a step in the product formation process, the information model including

- types (500.1, 500.2, ...) of data objects (300.1, 300.2, ...)
- and automatically analyzable specifications whose analysis generates or modifies data objects (300.1, 300.2, ...) as a function of other data objects (300.1, 300.2, ...)

wherein

- the information model includes types (600.1, 600.2, ...) of relations (400.1, 400.2, ...) among data objects (300.1, 300.2, ...),
- an automatically analyzable specification is assignable to a relation type (600.1, 600.2, ...)
- and to a relation type (600.1, 600.2, ...)

- at least two data object types (500.1, 500.2, ...)
- or at least one data object type (500.1, 500.2, ...) and at least one other relation type (600.1, 600.2, ...)
- or at least two other relation types (600.1, 600.2, ...)

are assigned.

14. The information model as recited in Claim 13,
wherein the information model includes

- categories of relation types (600.1, 600.2, ...)
- and a taxonomy of relation type categories,

and a relation type (600.1, 600.2, ...) is assignable to a relation type category.

15. The information model as recited in Claim 13 or Claim 14,
wherein membership intervals and/or roles for the data objects (300.1, 300.2, ...) and/or relations (400.1, 400.2, ...) which are linked by a relation of the relation type (600.1, 600.2, ...) are assigned to at least one relation type (600.1, 600.2, ...).

16. The information model as recited in one of Claims 13 through 15,
wherein the information model includes phase data objects (300.1, 300.2, ...) each representing a phase of the formation process, and a phase data object (300.1, 300.2, ...) is assignable to a data object type (500.1, 500.2, ...).

17. The information model as recited in one of Claims 13 through 16,
wherein the information model includes a data model for permanent storage of data object types (500.1, 500.2, ...) and/or relation types (600.1, 600.2, ...) which are structured according to the information model.